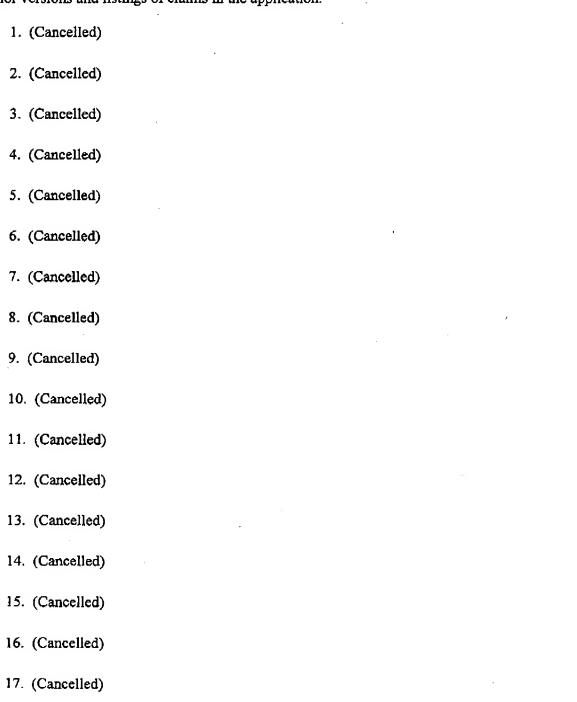
PATENT

LISTING OF THE CLAIMS

A complete listing of the claims is provided below. This listing of the claims replaces all prior versions and listings of claims in the application.



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- 18. (Cancelled)
- 19. (Cancelled)
- 20. (Cancelled)
- 21. (Cancelled)
- 22. (Cancelled)
- 23. (Cancelled)
- 24. (Cancelled)
- 25. (Cancelled)
- 26. (Cancelled)
- 27. (Cancelled)
- 28. (Cancelled)
- 29. (Cancelled)
- 30. (Cancelled)
- 31. (Cancelled)
- 32. (Cancelled)
- 33. (Cancelled)
- 34. (Cancelled)
- 35. (Cancelled)

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36. (Currently Amended) A method of making a die cast product, comprising:

heating a metal to a liquid state;

cooling the liquid metal to a semi-solid state; and

injecting the semi-solid metal into a die cavity, wherein the metal is an aluminum alloy comprising:

6.5 to 8.5 percent silicon by weight;

0.6 to 1.0 percent iron by weight;

0.01 to 0.5 percent manganese by weight;

0.35 to 0.65 percent magnesium by weight;

0.01 to 1.0 percent zinc by weight;

0.01 to 0.2 percent titanium by weight;

2.0 to 2.5 percent copper by weight;

0.01 to 0.15 percent one or more other elements, wherein the one or more other elements includes lead; and

aluminum as the remainder.

- 37. (Previously Presented) The method of claim 36, wherein the aluminum alloy comprises 7.2 to 8.0 percent silicon by weight.
- 38. (Previously Presented) The method of claim 36 wherein the aluminum alloy comprises 0.6 to 0.8 percent iron by weight.

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- 39. (Previously Presented) The method of claim 36 wherein the aluminum alloy comprises 0.45 to 0.6 percent magnesium by weight.
- 40. (Previously Presented) The method of claim 36 wherein the semi-solid metal comprises round crystal formations.
- 41. (Previously Presented) The method of claim 36 wherein the semi-solid metal comprises globular formations.
- 42. (Previously Presented) The method of claim 36 wherein the semi-solid metal comprises rosette formations.
- 43. (Previously Presented) The method of claim 36 wherein the method further comprises ascertaining the microstructure of the semi-solid metal before injecting the metal into the die cavity.
- 44. (Previously Presented) The method of claim 36 wherein the die cast product comprises round crystal formations.
- 45. (Previously Presented) The method of claim 36 wherein the die cast product comprises globular formations.
- 46. (Previously Presented) The method of claim 36 wherein the die cast product comprises rosette formations.
- 47. (Previously Presented) The method of claim 36 wherein the die cast product comprises intermetallic particles.
- 47#. (Cancelled) The method of claim 47 wherein the intermetallic particles are entrapped in at least one of a round crystal formation, a globular formation, and a rosette formation.

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- 48. (Previously Presented) The method of claim 36 wherein the die cast product comprises restricted fracture paths.
- 49. (Previously Presented) The method of claim 36 wherein the cooling step further comprises:

forming semi-solid metal feedstock billets;

cutting the billets; and

re-heating the billets before injecting the metal into the die cavity.

- 50. (Previously Presented) The method of claim 49 wherein the method further comprises electromagnetically stirring the metal.
- 51. (Previously Presented) The method of claim 49 wherein the method further comprises chemically grain-refining the billets.
- 52. (Previously Presented) The method of claim 51 wherein the method further comprises heating the grain-refined billets.
- 53. (Previously Presented) The method of claim 36 wherein the one or more other elements is lead.
- 54. (Previously Presented) The method of claim 36 wherein the one or more other elements is chromium.
- 55. (Previously Presented) The method of claim 36 wherein the one or more other elements are lead and chromium.
- 56. (New) The method of claim 47 wherein the intermetallic particles are entrapped in at least one of a round crystal formation, a globular formation, and a rosette formation.